



R.I. DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
Office of Water Resources



APPLICATION FOR ORDER OF APPROVAL

**MARINE SEWAGE PUMPOUT FACILITY AND ASSOCIATED HOLDING TANK OR SEWER SYSTEM
EXPANSION/MODIFICATION**

If additional space is required to properly answer any questions, please attach additional sheets and refer to the attachments in the appropriate space provided:

GENERAL PROJECT INFORMATION

1. Date of Application: _____
2. Project Name: _____
3. Project Location: _____
4. Project Type (Check one): Public _____ Private _____
5. Applicant name: _____
6. Applicant address: _____

7. Applicant phone #: _____
8. Owner name (if different from # 5) _____
9. Owner address: _____

10. Owner phone #: _____
11. Design Engineer: _____
12. Design Engineer address: _____

13. Design Engineer phone #: _____

REGULATORY/ADMINISTRATIVE

1. COLLECTION AND TREATMENT SYSTEM:

NOTE: THE BELOW SIGNATURES ARE NOT REQUIRED IF THE MARINE SEWAGE PUMPOUT FACILITY IS PROPOSED TO DISCHARGE TO AN ONSITE HOLDING TANK.

As the designated wastewater collection/treatment system official, I have reviewed the proposed project and have determined that all downstream lines, pump stations, and treatment facilities under our jurisdiction can presently handle and/or treat the flows generated by the proposed project.

SIGNATURE AND TITLE: _____

NOTE: If the flows to be generated by the proposed project are not conveyed and/or treated entirely within one jurisdiction, then the additional certification below is required.

As the designated official for _____,
I have also reviewed the proposed project and have determined that the downstream lines, pump stations, and treatment facilities which will ultimately receive the flows generated by the proposed project have adequate capacity to convey and/or treat the proposed flows.

SIGNATURE AND TITLE: _____

2. FUNDING:

a. Will the owner file for State or Federal funding assistance? YES____ NO____

b. If yes, please indicate which funding program(s): _____

PROJECT DATA

1. Number of approved slips, moorings, transient boats, etc. to be served:

of slips:_____ # of moorings:_____ # of transients:_____ others:_____

2. Other establishments to be served (e.g. residential, industrial, commercial, governmental), if applicable:

a. _____
Name Type of establishment Design Flow (gpd)

b. _____
Name Type of establishment Design Flow (gpd)

c. _____
Name Type of establishment Design Flow (gpd)

3. Flow Data

!Flows shall be estimated in accordance with the attached "Guidelines for Submitting an Application for an Order of Approval for a Marine Sewage Pumpout Facility". As part of this application package, include all design computations which substantiate the flows listed below.

<u>Type</u>	<u>Seasonal Max. Daily Flow (gpd)</u>
Slips:	_____
Moorings:	_____
Transients:	_____
Other:	_____
TOTAL:	_____

NOTE: SECTIONS 4 AND 5 BELOW ARE ONLY APPLICABLE WHERE CONNECTION TO A WASTEWATER COLLECTION/TREATMENT SYSTEM IS PROPOSED.

4. Receiving wastewater treatment facility name: _____

a. Avg. daily flow: _____ b. Design flow: _____

5. General description of sewers and pump stations within the existing sewer system which will transport the flow from the proposed marine sewage pumpout facility to the receiving wastewater treatment facility:

6. Location and capacity of marine sewage pumpout(s):

a.	_____	_____
	Pumpout Location	Pumpout Capacity (gpm)
b.	_____	_____
	Pumpout Location	Pumpout Capacity (gpm)
c.	_____	_____
	Pumpout Location	Pumpout Capacity (gpm)

7. Holding Tank(s) Information (if applicable):

- a. Are local approvals or permits required?_____
- Have local approvals or permits been issued?_____
- b. Number of tanks:_____
- c. Volume per tank:_____ Total volume:_____
- d. Tank material (i.e., concrete, steel, etc.):_____

8. Any additional appropriate information:_____

FOR OWR USE ONLY

APPLICATION RECEIPT DATE:_____

FILE NUMBER:_____ REVIEW START DATE:_____

REVIEWER:_____ REVIEW COMPLETION DATE:_____

ACTION(S) TAKEN:_____

INSTRUCTIONS

Where applicable, the application must be signed by the appropriate official(s) representing the Town, City, Authority, Commission, or Applicant in which a system or means to prevent pollution, as defined in Title 46, Chapter 12 of the General Laws of 1956, as amended, is to be adopted. The signature of the design engineer or other agent will be accepted only if accompanied by a letter of authorization from the official(s) mentioned above.

The application must be submitted to this office along with the following information:

1. Two (2) sets of plans and specifications stamped and signed by a R.I. Professional Engineer.
2. All project design assumptions and computations.
3. Photocopies of the **DEM Order of Approval Application Fee Form** (form enclosed) and the check sent to the DEM Office of Management Services.

GENERAL CONDITIONS ON ORDERS OF APPROVAL

1. After notice and opportunity for a hearing, an Order of Approval may be modified or revoked for cause including but not limited to the following:
 - a) The discharge of any wastewater at a level in excess of that identified and authorized by this Order of Approval.
 - b) Obtaining an Order of Approval by misrepresenting or failing to fully disclose all relevant facts.
 - c) Failure to operate and maintain the approved system in a condition satisfactory to the Department of Environmental Management.
 - d) Construction of additional work that was not contemplated or proposed at the time of issuance of this Order of Approval.
2. The provisions of an Order of Approval shall apply to and be binding upon the owner, their agents, servants, employees, successors, heirs and assignors and all persons, firms and corporations acting under, through, and on behalf of them.
3. In the event of any change in control or ownership of facilities from which authorized discharges originate, the owner shall notify the Department of Environmental Management with advanced written notice of such transfer. Succeeding owners shall be bound by all the conditions of the original Order of Approval for the system, unless a new or modified Order is obtained.
4. All projects will be reviewed utilizing the following technical guidances: "Guides for the Design of Wastewater Treatment Works (TR-16)", by the New England Interstate Water Pollution Control Commission and "Guidelines for Submitting an Application for an Order of Approval for a Marine Sewage Pumpout Facility", by the Division of Water Resources. In addition, all projects must be designed to conform with current Office of Water Resources policies, where applicable.

**Rhode Island Department of Environmental Management
Office of Water Resources - Permitting Section
Marine Sewage Pumpout System Operation and Maintenance Manual Checklist**

- ☐ Typical Table of Contents:
 - ☐ Facility Description
 - ☐ Plan of Operations
 - ☐ Operation Procedures
 - ☐ Recommended Maintenance Plan
 - ☐ Spring Start-up/Winter Shut-down and Storm Protection
 - ☐ Provisions for Record Keeping
 - ☐ Appendices

Facility Description:

- ☐ Location; Town, Marina, body of water, etc.
- ☐ Locus Map with line diagram of complete system
- ☐ Physical description of equipment and installation
- ☐ Depth survey and description of accessibility

Plan of Operations:

- ☐ Administrative responsibilities
- ☐ Managerial oversight
- ☐ Staffing plan; position description and qualifications
- ☐ Estimated annual budget
- ☐ Personnel Training

Operation and Control Procedures:

- ☐ Step by step description of the use of the pump-out using descriptive language from docking to readying for next use
- ☐ Description of various controls and recommended settings

Recommended Maintenance Plan (for all associated equipment)

- ☐ Daily
- ☐ Weekly
- ☐ Monthly
- ☐ Seasonally; both protective and corrective
- ☐ Housekeeping
- ☐ Special tools and equipment

Spring Start-up/Winter Shut-down and Storm Protection

- ☐ Protection; winter and storm
- ☐ Storage; off-season
- ☐ Start-up testing

Safety Issues/Emergency Procedures

- ☐ Health protection
- ☐ Water body protection/ spill prevention
- ☐ Vandalism protection
- ☐ Spill/contamination notification procedure
- ☐ Equipment failures
- ☐ Safety equipment
- ☐ Emergency phone numbers and response plan

System trouble Shooting Guide

- ☐ Manufacturers troubleshooting guide
- ☐ Manufacturers cut-sheets and shop drawings
- ☐ Electrical schematics/wiring diagrams
- ☐ Manufacturers representative/customer service info
- ☐ Warranty information
- ☐ Spare parts/Accessory list and list of parts/supplies to be stored on-site

Provisions for Record Keeping

- ☐ Reporting procedures
- ☐ Record of Use/ logbook
- ☐ Maintenance checklist form/timeline

☐ **Appendices**

GUIDELINES FOR SUBMITTING AN APPLICATION FOR AN ORDER OF APPROVAL FOR A MARINE SEWAGE PUMPOUT FACILITY

INTRODUCTION

These guidelines for the submittal of a proposed marine sewage pumpout facility are drafted to aide the applicant in the procurement of an Order of Approval. This will insure that the initial submittal will meet the minimum requirements of the Rhode Island Department of Environmental Management, Office of Water Resources - Permitting Section (RIDEM). Please be advised that there may be other programmatic requirements if the applicant is seeking federal or state funding assistance. After initial review of the submittal, RIDEM may issue review comments, which need to be addressed by the design engineer prior to RIDEM issuing an Order of Approval.

GENERAL SUBMITTAL REQUIREMENTS

- ◆ Submittal of a completed "Application for Order of Approval - Marine Sewage Pumpout Facility and Associated Holding Tank or Sewer System Expansion/Modification" form (copy enclosed).
- ◆ A photocopy of the submitted Application Fee Form (copy enclosed) and check in the amount of \$277.00 made payable to the General Treasurer of the State of Rhode Island. **The original form and application fee shall be submitted directly to:**

Department of Environmental Management
Office of Management Services
235 Promenade Street
Providence, R.I. 02908

- ◆ Two complete sets of construction plans and specifications.
- ◆ Note that plans and specifications submitted for an Order of Approval require a Rhode Island Professional Engineer's stamp and signature on each page (title page only for specifications).
- ◆ All appropriate design computations.

APPLICATION

- ◆ Unless the marine sewage pumpout facility is proposed to discharge to an on-site holding tank, the Application must be signed, under the Regulatory/Administrative Section (page 2), by the appropriate municipal or sewer commission official(s) responsible for reviewing and approving sewer system expansions and/or modifications. These signatures certify that the flows are accepted for conveyance to and treatment at the receiving Wastewater Treatment Facility (WWTF).

DESIGN PLANS

- ◆ The level of effort in the presentation of design plans shall be commensurate with the level of complexity of the project.

- ◆ Locus map of the area in concern, highlighting the area of the facility.
- ◆ General site plan detailing all components of the proposed system. This should include the direction of the flow.
- ◆ Detailed Plans as described below;

Plan Views:

- a) Geographical features including topographical contour elevations (minimum of 4 ft. contour intervals), streams or water bodies, north arrow, scale, etc.
- b) The 100 year flood plain boundary and elevation where appropriate.
- c) Existing or proposed streets and names.
- d) Existing utilities.
- e) Proposed facilities, holding tank(s), pipes, direction of flows.
- f) Designated/committed docking space for pumpout accessibility
- g) Depth survey of area surrounding designated docking space

Profile Views:

- a) Elevation of existing ground level, proposed grading, appropriate water elevations and depths.
- b) Elevations of existing utilities, proposed piping, holding tanks and appurtenances.
- c) Appropriate stationing.
- d) Labeled slopes, pipe sizes and materials.
- e) Elevations of test borings and ground water elevations if deemed necessary by the designer.

Typical Construction Details:

Include "typical" and "special" construction details and supplementary views.(i.e., paving cross-sections, trench cross-sections, manholes, pipe jointing, holding tank, etc). **A detail of the connection of the proposed system to the existing sewer system, if applicable, must also be provided.**

- ◆ When the marine sewage pumpout unit is proposed to be located adjacent to gas pumps or other fuel supplies, a reasonable separation (15-20 ft.) between the pumpout unit and any fuel pump should be maintained, if practicable. If site constraints make a reasonable separation impossible, then the pumpout unit must be supplied and installed with explosion proof electrical components.

SPECIFICATIONS

- ◆ Construction techniques and requirements.
- ◆ Testing requirements and conditions of acceptance.
- ◆ Material and appurtenance specifications.

◆ The above-mentioned may be included as part of the design plans as general notes and typical details, if appropriate.

◆ May include product information and "cut-sheets" if the proposed manufacturer or supplier has already been selected.

DESIGN COMPUTATIONS

◆ An estimation of flows expected from the proposed pumpout facility. This should take into account the capacity of the proposed pumping unit (gallons per minute), the volume of the average holding tank, the maximum pumpout requirement during the peak of the boating season. This is actually a conservative estimation of the expected flow so as not to limit the capacity of the facility for future expansion but meanwhile providing an estimation of the expected flows to the WWTF in situations where connection to a municipal wastewater collection system is proposed. The Order of Approval will be issued with a value of the Seasonal Maximum Daily Flow.

◆ Calculations demonstrating the capability of the pumps to overcome the associated suction and discharge heads.

◆ Calculations demonstrating the hydraulic capacity of the proposed conveyance piping from the pumpout facility to either a municipal wastewater collection system or an on-site holding tank. In situations where flows will be conveyed to a municipal wastewater collection system, calculations should also be provided which demonstrate that the associated downstream piping, pumping stations and WWTF are adequately sized to handle the proposed flows.

◆ Calculations showing sufficient cleansing velocities in proposed force mains (>3 fps) and gravity piping (>2 fps).

HOLDING TANKS

◆ **Holding tanks will only be approved in locations where direct connection to an existing sewer system is not possible.**

◆ Holding tanks should always be buried and should be accessible to a pumper truck.

◆ When considering flotation, the water table elevation should be assumed to be at grade level whenever the holding tank is located within the 100-year floodplain or in the coastal flood zone. Anti-flotation calculations should be submitted as part of the design computations. The means proposed to counteract flotation should be indicated on the drawings.

◆ Should specify "tight" construction, as in septic tank installation. Bedding materials and installation techniques must be specified and a detail should be indicated on the drawings.

◆ If the buried holding tank is to be located in an area subject to vehicular traffic, the plans should indicate that the tank specified is designed to handle the anticipated superimposed loads (i.e., H-20). One way this may be accomplished is by indicating a tank make and model number on the plans and providing

a catalog cut of that tank which verifies that the specified tank is designed for the anticipated loadings.

◆ Holding tanks should be specified to include a system of sensors and alarms to signal marina personnel when the tank is approaching its capacity. The use of two (2) level sensors inside the tank is suggested. One sensor would be set at the **eighty percent (80%)** full elevation. When activated, this sensor would set off an audio-visual alarm, indicating that the tank needs to be emptied soon. Some level sensing equipment currently on the market has the ability to silence the audible alarm, while the visual alarm remains active as long as the wastewater level in the tank remains at or above the 80% level. The visual alarm should consist of a flashing light situated very conspicuously at or near the holding tank. A second sensor would be set at the **ninety-five percent (95%)** full elevation. When this second alarm (may also be audio-visual) is activated, the power supply to the pumpout unit would be cut off so that no additional sewage could be pumped to the holding tank until the tank is emptied and the alarm system reset.

◆ Venting of the holding tank is absolutely necessary. The location of the vent pipe should be carefully considered. The vent pipe could run up the side of a building or utility pole nearby and should be protected from vandalism and traffic-related damage. The elevation of the vent pipe outlet must be at or above the 100-year flood elevation in order to prevent extraneous water from entering the holding tank under most severe weather situations.

◆ Marinas should provide one or more holding tanks having a total storage capacity of not less than 5,000 gallons. An area adjacent to the proposed holding tank(s), for use as a future location for additional holding tanks, should be so indicated on the design plans either by a note or by dashed line delineation. This location must be large enough for an additional 5,000 gallons of storage capacity. The basis for providing a minimum of 5,000 gallons of storage capacity is as follows:

8 hour day X 4 boats/hour* X 25 gallons/boat holding tank = 800 gallons per day maximum rate to be pumped during the peak boating season. Assume use is 7 days per week, the maximum volume of waste to any one pumpout holding tank in one week would be 800 X 7 = 5,600 gallons per week.

The above mentioned flow estimate is very conservative based on present demand for pumpout facilities, but when the entire Narragansett Bay becomes a designated "zero discharge zone", then these maximum daily flows may be realized. The marina owner should realize that they may have to pump weekly in the height of the boating season as use of the pumpout unit increases.

*It typically takes 15 minutes per boat to dock, hook up to pumpout unit, pump out boat holding tank, and leave the area. Therefore, a maximum of 4 boats per hour can conceivably utilize a pumpout unit.